

WHAT IS CLAIMED IS:

1. An image sensing apparatus comprising:  
a plurality of image sensing elements each  
including a plurality of photoelectric conversion  
sections; and  
an adding circuit adapted to add signals from said  
plurality of photoelectric conversion sections to  
obtain a one-pixel signal, wherein  
said adding circuit adds the signals such that the  
one-pixel signals obtained by the addition are arranged  
at equal intervals in an area extending over said  
plurality of image sensing elements.
2. An image sensing apparatus according to claim  
1, wherein  
the centroids of said photoelectric conversion  
sections are arranged at equal intervals in the area  
extending over said plurality of image sensing  
elements.
3. An image sensing apparatus according to claim  
1, wherein  
said adding circuit includes a voltage adding  
circuit adapted to add the signals generated in said  
plurality of photoelectric conversion sections at a  
voltage level.

4. An image sensing apparatus according to claim  
3, wherein

5 said voltage adding circuit is arranged so as to  
add signals generated in photoelectric conversion  
sections of one image sensing element.

5. An image sensing apparatus according to claim  
3, wherein

10 said voltage adding circuit is arranged so as to  
add signals generated in photoelectric conversion  
sections in a plurality of image sensing elements.

6. An image sensing apparatus according to claim  
1, wherein

15 said adding circuit includes a charge adding  
circuit adapted to add charge levels of the signals  
generated in said plurality of photoelectric conversion  
sections.

20 7. An image sensing apparatus according to claim  
6, wherein

said charge adding circuit adds signals generated  
in photoelectric conversion sections of one image  
sensing element.

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8. An image sensing apparatus comprising:  
a plurality of image sensing elements each

including a plurality of photoelectric conversion sections; and

an adding circuit adapted to add signals from said plurality of photoelectric conversion sections to obtain a one-pixel signal, wherein

each photoelectric conversion section is arranged such that the one-pixel signals obtained by the addition is arranged at equal intervals in an area extending over said plurality of image sensing

elements.

9. An image sensing apparatus according to claim 8, wherein

the centroids of said photoelectric conversion sections are arranged at equal intervals in the area extending over said plurality of image sensing elements.

10. An image sensing apparatus according to claim 8, wherein

said adding circuit includes a voltage adding circuit adapted to add charge levels of the signals generated in said plurality of photoelectric conversion sections.

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11. An image sensing apparatus according to claim 10, wherein

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said voltage adding circuit is arranged so as to add signals generated in photoelectric conversion sections of one image sensing element.

5           12. An image sensing element according to claim 10, wherein

said voltage adding circuit is arranged so as to add signals generated in photoelectric conversion sections in a plurality of image sensing elements.

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13. An image sensing apparatus according to claim 8, wherein

15           said adding circuit includes a charge adding circuit adapted to add charge levels of the signals generated in said plurality of photoelectric conversion sections.

14. An image sensing apparatus according to claim 13, wherein

20           said charge adding circuit adds signals generated in photoelectric conversion sections of one image sensing element.

25           15. An image sensing apparatus comprising:  
              a plurality of image sensing areas each including a plurality of photoelectric conversion sections, wherein said plurality of photoelectric conversion

sections included in each image sensing area include photoelectric conversion sections having different areas;

an adding circuit adapted to add signals from said plurality of photoelectric conversion sections to obtain a one-pixel signal, wherein said adding circuit adds the one-pixel signals such that the one-pixel signals obtained by the addition are arranged at equal intervals in an area extending over said plurality of image sensing areas.

16. An image sensing apparatus comprising:  
a plurality of image sensing areas each including a plurality of photoelectric conversion sections,  
wherein said plurality of photoelectric conversion sections included in each image sensing area include photoelectric conversion sections having different areas; and

an adding circuit adapted to add signals from said plurality of photoelectric conversion sections to obtain a one-pixel signal, wherein each photoelectric conversion section is arranged such that the one-pixel signals obtained by the addition are arranged at equal intervals in an area extending over said plurality of image sensing areas.

17. An image sensing apparatus comprising:

a plurality of image sensing areas each including  
a plurality of photoelectric conversion sections;

a plurality of output sections adapted to output a  
signal on an each image sensing area basis; and

5           an image processing circuit adapted to perform a  
processing so as to obtain an image from a first one-  
pixel signal obtained by adding signals from said  
plurality of photoelectric conversion sections  
extending over said plurality of image sensing areas  
10          and a second one-pixel signal obtained from each  
photoelectric conversion section.

18. An image sensing apparatus according to claim  
17, wherein

15          the first one-pixel signal and the second one-  
pixel signal are arranged at equal intervals in an area  
extending over said plurality of image sensing areas.

19. An image sensing apparatus comprising:

20          a plurality of image sensing areas each including  
a plurality of photoelectric conversion sections;

              a plurality of output sections adapted to output a  
signal on a each image sensing area basis; and

25          an adding circuit adapted to, when signals from  
said plurality of photoelectric conversion sections are  
added to obtain a one-pixel signal, add the signals  
from said plurality of photoelectric conversion

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sections extending over said plurality image sensing areas to obtain said one-pixel signal.

20. An image sensing apparatus according to claim  
5 1, further comprising:

a scintillator plate;  
a signal processing circuit adapted to process signals from said image sensing elements; and  
a radiation source adapted to generate radiation.

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21. An image sensing apparatus according to claim  
8, further comprising:

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a scintillator plate;  
a signal processing circuit adapted to process signals from said image sensing elements; and  
a radiation source adapted to generate radiation.

22. An image sensing apparatus according to claim  
17, further comprising:

20

a scintillator plate;  
a signal processing circuit adapted to process signals from said image sensing areas; and  
a radiation source adapted to generate radiation.

25

23. An image sensing apparatus according to claim  
19, further comprising:  
a scintillator plate;

a signal processing circuit adapted to process signals from said image sensing areas; and a radiation source adapted to generate radiation.

5        24. An image sensing apparatus comprising a plurality of image sensing areas adapted to sense an object image,

wherein said object image is sensed over said plurality of image sensing areas and each image sensing  
10      area is provided with a plurality of photoelectric conversion sections, wherein scanning circuit is arranged inside part of said photoelectric conversion sections, and wherein centroids of said photoelectric conversion sections in which said scanning circuits are  
15      arranged and centroids of said photoelectric conversion sections in which said scanning circuits are not arranged are arranged at equal intervals.

20      25. An image sensing apparatus comprising a plurality of image sensing areas each including a plurality of photoelectric conversion sections,

wherein an object image is sensed over said plurality of image sensing areas and each of said plurality of image sensing areas has a first area in  
25      which a scanning circuit is arranged between photoelectric conversion sections and a second area in which said scanning circuit is not arranged between

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5        said photoelectric conversion sections, and wherein  
centroids of said photoelectric conversion sections of  
said first area and centroids of said photoelectric  
conversion sections of said second area are arranged at  
equal intervals.

26. An image sensing apparatus according to claim  
24, wherein said scanning circuit is provided with a  
shift register.

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27. An image sensing apparatus according to claim  
26, wherein said shift register is a static type.

15

28. An image sensing apparatus according to claim  
24, wherein said scanning circuit is provided with a  
decoder.

20

29. An image sensing apparatus according to claim  
24, wherein a power supply line is arranged on said  
scanning circuit.

30. An image sensing apparatus comprising a  
plurality of image sensing areas,

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wherein an object image is sensed over said  
plurality of image sensing areas and each image sensing  
area is provided with a plurality of photoelectric  
conversion sections, wherein a common processing

circuit adapted to selectively output to the outside  
signals from a vertical output line to which signals  
from said plurality of photoelectric conversion  
sections in a vertical direction are read out, via a  
5 horizontal output line are arranged inside said  
photoelectric conversion sections wherein and centroids  
of said photoelectric conversion sections in which said  
common processing circuits are arranged and centroids  
of said photoelectric conversion section in which said  
10 common processing circuits are not arranged are  
arranged at equal intervals.

31. An image sensing apparatus comprising a  
plurality of image sensing areas each including a  
15 plurality of photoelectric conversion sections,  
wherein an object image is sensed over said  
plurality of image sensing areas and each of said  
plurality of image sensing areas has a first area in  
which a common processing circuit adapted to  
20 selectively output to the outside signals from a  
vertical output line to which signals from said  
plurality of photoelectric conversion sections in said  
vertical direction are read out, via a horizontal  
output line is arranged between said photoelectric  
25 converting areas, and second area in which said common  
circuit is not arranged between said photoelectric  
conversion sections, and wherein centroids of said

photoelectric conversion sections of said first area and centroids of said photoelectric conversion sections of said second area are arranged at equal intervals.

5           32. An image sensing apparatus according to claim  
30, wherein said common circuit is provided with a  
multiplexer.

10          33. An image sensing apparatus according to claim  
30, wherein said common processing circuit is provided  
with an amplifier adapted to amplify signals  
transferred to said horizontal output line.

15          34. An image sensing apparatus according to claim  
30, wherein a power supply line is arranged on said  
common processing circuit.

35. An image sensing apparatus comprising a  
plurality of image sensing areas,

20          wherein an object image is sensed over said  
plurality of image sensing areas and each image sensing  
area is provided with a plurality of photoelectric  
conversion sections, wherein light shielding region is  
arranged inside part of said photoelectric conversion  
25         sections and wherein centroids of said photoelectric  
conversion sections in which said light shielding  
sections are arranged and centroids of said

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photoelectric conversion sections in which said light shielding sections are not arranged are arranged at equal intervals.

5           36. An image sensing apparatus according to claim  
35, wherein a scanning circuit is arranged under said  
light shielding region.

10          37. An image sensing apparatus according to claim  
36, wherein said scanning circuit is provided with a  
shift register.

15          38. An image sensing apparatus according to claim  
37, wherein said shift register is a static type.

20          39. An image sensing apparatus according to claim  
36, wherein said scanning circuit is provided with a  
decoder.

25          40. An image sensing apparatus according to claim  
35, wherein a common processing circuit adapted to  
selectively output to the outside signals from a  
vertical output line to which signals from said  
plurality of photoelectric conversion sections in a  
vertical direction are read out, via a horizontal  
output line is arranged under said light shielding  
region.

41. An image sensing apparatus according to claim  
35, wherein said common processing circuit is provided  
with a multiplexer.

5       42. An image sensing apparatus according to claim  
35, wherein said common processing circuit is provided  
with an amplifier adapted to amplify the signals  
transferred to said horizontal output line.

10      43. An image sensing apparatus comprising a  
plurality of image sensing areas,  
      wherein an object image is sensed over said  
plurality of image sensing areas and each image sensing  
area is provided with a plurality of photoelectric  
15 conversion sections, wherein light shielding regions  
are arranged inside said plurality of photoelectric  
conversion sections, and wherein centroids of said  
photoelectric conversion sections in which said light  
shielding regions are arranged are arranged at equal  
20 intervals.

44. An image sensing apparatus according to claim  
43, wherein a scanning circuit is arranged under said  
light shielding regions.

25      45. An image sensing apparatus according to claim  
43, wherein said scanning circuit is provided with a

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shift register.

46. An image sensing apparatus according to claim  
45, wherein said shift register is a static type.

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47. An image sensing apparatus according to claim  
44, wherein said scanning circuit is provided with a  
decoder.

10           48. An image sensing apparatus according to claim  
43, wherein a common processing circuit adapted to  
selectively output to the outside signals from a  
vertical output line to which signals from said  
plurality of photoelectric conversion sections in a  
15 vertical direction are read out, via a horizontal  
output line is arranged under said light shielding  
regions.

20           49. An image sensing apparatus according to claim  
48, wherein said common processing circuit is provided  
with a noise eliminating circuit.

25           50. An image sensing apparatus according to claim  
48, wherein said common processing circuit is provided  
with an A/D converter.

51. An image sensing apparatus according to claim

48, wherein said common processing circuit is provided with a multiplexer.

52. An image sensing apparatus according to claim  
5 48, wherein said common processing circuit is provided with an amplifier adapted to amplify signals transferred to said horizontal output line.

10 53. An image sensing apparatus comprising a plurality of image sensing areas each including a plurality of photoelectric conversion sections,

15 wherein an object image is sensed over a plurality of image sensing areas and each of said plurality of image sensing areas has a first area in which a scanning circuit and/or a common processing circuit adapted to selectively output to the outside signals from a vertical output line to which signals from said plurality of photoelectric conversion sections in the vertical direction are read out, to a horizontal output line are arranged between said photoelectric conversion sections, and a second area in which said scanning circuit and said common circuit are not arranged between said photoelectric conversion sections, and wherein light shielding means is arranged such that 20 centroids of said photoelectric conversion sections of said first area and centroids of said photoelectric conversion sections of said second area are arranged at 25

equal intervals.

54. An image sensing apparatus according to claim  
25, further comprising:

5 a scintillator plate;  
a signal processing circuit adapted to process  
signals from said image sensing areas; and  
a radiation source adapted to generate radiation.

10 55. An image sensing apparatus according to claim  
31, further comprising:

a scintillator plate;  
a signal processing circuit adapted to process  
signals from said image sensing areas; and  
15 a radiation source adapted to generate radiation.

56. An image sensing apparatus according to claim  
35, further comprising:

20 a scintillator plate;  
a signal processing circuit adapted to process  
signals from said image sensing areas; and  
a radiation source adapted to generate radiation.

25 57. An image sensing apparatus according to claim  
43, further comprising:

a scintillator plate;  
a signal processing circuit adapted to process

signals from said image sensing areas; and  
a radiation source adapted to generate radiation.

58. An image sensing apparatus according to claim  
5 53, further comprising:

a scintillator plate;  
a signal processing circuit adapted to process  
signals from said image sensing areas; and  
a radiation source adapted to generate radiation.